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LADAS & PARRY LLP 224 SOUTH MICHIGAN AVENUE SUITE 1600 CHICAGO, IL 60604			OREILLY, PATRICK F	
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			3749	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/526,756

Applicant(s)

NILSSON, AGNE

Examiner

Patrick F. O'Reilly III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/5/2005; 11/7/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

Information Disclosure Statement

1. The information disclosure statements (IDSs) submitted on April 5, 2005 and November 2, 2006 are acknowledged. These submissions are in compliance with the provisions of 37 C.F.R. § 1.97 and 37 CFR § 1.98 and, therefore, the references therein have been considered.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: angle "a" (Fig. 2a). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

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accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to **150 words**. It is important that the abstract **not exceed 150 words in length** since the space provided for the abstract on the computer tape used by the printer is limited. **The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided.** The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because of the following informalities: (a) the abstract exceeds the maximum allowable length of 150 words and (b) the abstract uses legal phraseology, such as "said".

Correction is required. See MPEP § 608.01(b).

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "System, Device and Method for Ventilating a Room".

7. The disclosure is objected to because of the following informalities:

On page 1, line 31 of the specification, the phrase "...how air behave,..." should be corrected to read "...how air behaves,...".

On page 1, lines 35-36 of the specification, the phrase "...when the conditioned air passes the room" should be corrected to read "...when the conditioned air passes through the room".

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On page 2, lines 27-28 of the specification, the phrase "...to achieve optimal comfort an minimized risk of spreading infections" should be corrected to read "...to achieve optimal comfort and a minimized risk of spreading infections".

On page 3, lines 30-31 of the specification, the phrase "It then disperse..." should be corrected to read "It then disperses...".

On page 4, line 17 of the specification, reference character 306 is used to denote holes in the diffuser. However, reference character 306 is also used to denote one of the perforated sheets in line 15 on this page and in Figure 3a. The examiner believes that the reference character immediately following the word "holes" should be 307 in lieu of 306.

On page 4, line 22 of the specification, reference character 331 is used to denote one of the "light tubes". However, reference character 331 does not appear in any of the figures.

On page 4, line 25 of the specification, the word "percent" is misspelled "per cent".

On page 5, line 12 of the specification, reference character 345 is used to denote "Each slot". However, reference character 345 does not appear in any of the figures. The examiner believes that the reference character(s) immediately following the phrase "Each slot" should be 301, 302 in lieu of 345.

Appropriate correction is required.

Claim Objections

8. Claim 5 is objected to because it includes a reference character (160) which is not enclosed within parentheses.

Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in

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the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m).

9. Claim 12 is objected to because of the following informalities: a word appears to be missing in the phrase "...having two slots an angle is formed...". The following modification is suggested: "...having two slots, wherein an angle is formed...". Appropriate correction is required.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. **Claims 3-4, 9, 12-17, and 20** are rejected under 35 U.S.C. 102(b) as being anticipated by Truhan (US 3,511,162). The specification and the drawings in the Truhan reference disclose all of the elements recited in **claims 3-4, 9, 12-17, and 20** of this application.

12. Specifically, in regard to claim 3, which is directed to an air supply unit for providing conditioned air to a patient lying in a bed, Truhan discloses a booster fan (fan or blower 69) arranged to force air through a guiding slot diffuser (air directing structure 30) for guiding an airstream (110) in a certain direction, wherein said diffuser (air directing structure 30) has at least one slot (space between plates 33 and 34), and one area of perforated sheet (perforated plate 25), being arranged at an outlet side of said diffuser (air directing structure 30). See Truhan, Figures 2 and 3; column 3, lines 43-52; and column 4, lines 35-37. Therefore, because all of the

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elements in claim 3 of this application are disclosed by the Truhan reference, this claim is rejected in accordance with 35 U.S.C. 102(b).

13. In regard to claim 4, which depends on claim 3, Truhan further discloses a diffuser with two slots (air directing structures 30 and 31), and areas of perforated sheet (perforated plates 24 and 25) arranged in close proximity of the slots such that an airstream (110, 111); comprising air passing through both the perforated sheet (perforated plates 24 and 25) and the diffuser slots (air directing structures 30 and 31) assumes a direction (110,111) as controlled by the direction of the diffuser slots. Refer to Truhan, Figure 3; column 3, lines 42-45; and column 7, lines 18-23 and lines 36-43. Consequently, the Truhan reference also meets the language set forth in claim 4.

14. In regard to claim 9, which depends on claim 3, Truhan further discloses slots (air directing structures 30 and 31) with a length, width, and a depth, wherein the depth is substantially larger than the width (i.e. space between plates 33 and 34). See Truhan, Figure 3 and column 3, lines 42-52. Thus, Truhan also meets the language of this claim.

15. In regard to claim 12, which depends on claim 9, Truhan further discloses two slots (air directing structures 30 and 31), wherein an angle is formed between the depth axes of each slot. Refer to Truhan, Figure 3 and column 3, lines 41-45. Therefore, the Truhan reference also meets the language of this claim.

16. In regard to claim 13, which depends on claim 12, Truhan further discloses an angle between the depth axes of the slots (air directing structures 30 and 31), which is arranged to be adjustable by virtue of support adjusting screws (37, 38) and pivoting plates (33, 34). See Truhan, Figure 3 and column 3, lines 48-56. Thus, Truhan also meets the language of this claim.

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17. In regard to claim 14, which depends on claim 12, Truhan further discloses that, by utilizing the adjusting means described above for claim 13, it is possible to direct air out of the slots "at any desired angle within certain limits". See Truhan, Figure 3 and column 3, lines 52-56. Therefore, because the depth axes in Truhan could be adjusted to an angle of 10 degrees, the Truhan reference also meets the language of claim 14.

18. In regard to claim 15, which depends on claim 4, Truhan further discloses a pair of fluorescent light housings (26) and (27), presumably, with a reflective interior housing, and containing light tubes (28) and (29) therein, for supplying light to the patient zone. Refer to Truhan, Figure 3 and column 3, lines 39-42. Consequently, the Truhan reference also meets the language set forth in claim 15.

19. In regard to claim 16, which is an independent claim, Truhan discloses a portable air conditioning unit, wherein at least one main diffuser (perforated plate 25) and at least one slot diffuser (air directing structure 30) arranged such that a first airflow through the slot (air directing structure 30) having a first velocity co-ejects a second airflow (112) through the at least one main diffuser (perforated plate 25) having a second velocity lower than said first velocity. Refer to Truhan, Figure 3; column 2, lines 3-7; column 3, lines 42-45; and column 7, lines 18-23 and lines 36-49. Therefore, Truhan also meets all of the limitations set forth in this claim.

20. In regard to claim 17, which depends on claim 16, Truhan further discloses a portable air conditioning unit wherein a combined airflow, being the result of said first and second airflow, assumes the direction (110,111) of the airflow through the slot diffuser (air directing structure 30). See Truhan, Figure 3; column 3, lines 42-45; and column 7, lines 36-49. Thus, Truhan also meets the language of this claim.

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21. In regard to claim 20, which depends on claim 16, Truhan further discloses a slot diffuser unit having two slots (air directing structures 30 and 31) with an acute angle between depth axes of the said two slots. Refer to Truhan, Figure 3 and column 3, lines 46-56. Consequently, the Truhan reference also meets the language set forth in claim 20.

Claim Rejections - 35 USC § 103

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. **Claims 1-2 and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Truhan (US 3,511,162) in view of Hirsch (DE 2851046 A1). These two references, when considered together, teach all of the elements recited in **claims 1-2 and 23** of this application.

24. In particular, claim 1 of this application is obvious when Truhan is viewed in light of Hirsch. Truhan discloses a system for ventilating a patient zone, comprising at least one air supply unit (overhead plenum 16) and one air exhaust unit (17), characterized in that said air supply unit (overhead plenum 16) comprises a guiding slot diffuser (air directing structure 30) for guiding an airstream in a certain direction (110), such that a patient, lying down in a bed (12) on his back, receives said airstream, and that said exhaust unit (17) is arranged near the floor and near a head end of the bed, such that air is arranged to leave the room after having ventilated the patient, said air supply unit (overhead plenum 16) also comprises an air outlet (perforated plate 25) devised to supply air at a lower velocity than the air passing through the diffuser (air

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directing structure 30), and in that said system also comprises at least one main diffuser comprising perforated sheet (perforated plate 25) and arranged such that a first airflow through the slot diffuser (air directing structure 30) having a first velocity co-ejects a second airflow having a second velocity through the main diffuser (perforated plate 25), said second velocity being lower than said first velocity such that the combined flow assumes substantially the direction (110) of the first flow, and in that the longitudinal direction of at least one slot (air directing structure 30) in the diffuser is lying in a plane which is parallel to a vertical plane parallel with a left or right side of the bed in which the patient is lying. See Truhan, Figures 1 and 3; column 3, lines 9-11, 26-28, and 42-45; and column 7, lines 18-23 and 36-49. However, claim 1 of this application further discloses that the at least one main diffuser supplies a volume of air which is larger than that supplied by the guiding slot diffuser. Truhan does not contain this additional element. Hirsch, although, teaches an air discharge device, for direction control in an air-conditioning system, that includes an outlet grid for supplying primary air and a jet positioned in the center of the grid for supplying secondary air, wherein the jet supplies a smaller volume of air than the outlet grid. Refer to Hirsch, attached English abstract from DERWENT. Hirsch is analogous prior art under 35 U.S.C. 103 because the system disclosed in this application and the device in Hirsch are from the same field of endeavor, namely air-conditioning systems. Moreover, there is sufficient motivation to combine Hirsch with Truhan because Hirsch teaches a device which may be used for direction control in an air conditioning system. Therefore, when Truhan is viewed in light of Hirsch, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a small volume of secondary air, as suggested by Hirsch, in order to direct the flow of a larger volume of primary

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air in an air-conditioning system for a patient zone. Refer to Hirsch, attached English abstract from DERWENT.

25. In regard to claim 2, which depends on claim 1, Hirsch further discloses, in the German language, a “geson-derten Verdichters oder Ventilators 10”, which means, when translated to the English language using the AltaVista Babel Fish Translation tool online, a “separate compressor or fan 10”. See Hirsch, page 10, first paragraph; also see AltaVista Babel Fish Translation (<http://babelfish.altavista.com/>) (accessed 11/22/2006). As seen in Figure 1 of Hirsch, this fan (10) drives the secondary air through the guiding jet (7). Refer to Hirsch, Figure 1. Therefore, when Truhan is viewed in light of Hirsch, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a fan, as suggested by Hirsch, in order to drive the secondary air through the diffuser (guiding jet 7). Refer to Hirsch, attached English abstract from DERWENT.

26. Claim 23, which is an independent method claim, is also obvious when Truhan is viewed in light of Hirsch. Truhan discloses the following steps: (a) providing a first, relatively fast flow of air (preferably 1700 feet per minute through air directing structures 30 and 31), (b) providing a second, relatively slow flow of air (preferably 80 feet per minute through perforated plate 25) adjacent to the first flow of air such that said first flow of air co-ejects air from the second flow (inductive effect of air directing structures 30 and 31), and (c) providing a low speed large volume suction for evacuating the supplied air (total volume of air enters the exhaust duct 17 at 500 feet per minute). Refer to Truhan, Figure 3; column 2, lines 3-7; column 3, lines 42-45; and column 7, lines 18-49. However, claim 23 of this application further discloses that the first flow of air is relatively small in volume, while the second flow of air is relatively large in volume.

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Truhan does not contain this additional limitation. Hirsch, although, teaches an air discharge device that includes an outlet grid for supplying primary air and a jet positioned in the center of the grid for supplying secondary air, wherein the jet supplies a smaller volume of air than the outlet grid. Refer to Hirsch, attached English abstract from DERWENT. As discussed above, Hirsch is analogous prior art under 35 U.S.C. 103(a) and there is sufficient motivation to combine Hirsch with Truhan. Therefore, when Truhan is viewed in light of Hirsch, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a small volume of secondary air at a higher velocity, as suggested by Hirsch, in order to co-eject a first flow of air at a lower velocity. Refer to Hirsch, attached English abstract from DERWENT.

27. **Claims 5-8, 18-19, and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Truhan (US 3,511,162) in view of Nillson (US 4,781,108). These two references, when considered together, teach all of the elements recited in **claims 5-8, 18-19, and 21** of this application.

28. In particular, claim 5 of this application, which depends on claim 4, is obvious when Truhan is viewed in light of Nillson. Truhan discloses a system for ventilating a patient zone, comprising a booster fan (fan or blower 69), a diffuser with two slots (air directing structures 30 and 31), and areas of perforated sheet (perforated plates 24 and 25) arranged in close proximity of the slots such that an airstream (110, 111); comprising air passing through both the perforated sheet (perforated plates 24 and 25) and the diffuser slots (air directing structures 30 and 31) assumes a direction (110,111) as controlled by the direction of the diffuser slots. See Truhan, Figures 2 and 3; column 3, lines 42-52; column 4, lines 35-37; and column 7, lines 18-23 and

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lines 36-43. However, claim 5 of this application further discloses that the diffuser slots form an angle to a base plane of the supply unit such that air is guided obliquely down towards the patient. Truhan does not contain this further limitation. Nillson, although, teaches an air supply device, for supplying clean air to an operating room or other similar application, that includes a central supply member (10), which forms a 45° angle with the horizontal plane such that air from longitudinal air slits (11) is directed obliquely down towards a patient. Refer to Nillson, Figures 2 and 4; column 4, lines 20-31. Nillson is analogous prior art under 35 U.S.C. 103 because the system disclosed in this application and the device in Nillson are from the same field of endeavor, namely devices for supplying clean air to an operating room or similar clean working spaces. See Nillson, column 1, lines 5-8. Moreover, there is sufficient motivation to combine Nillson with Truhan because Nillson teaches a device, for supplying clean air to a patient, which incorporates a specific type of airstream direction control. Therefore, when Truhan is viewed in light of Nillson, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a central supply member with longitudinal air slits, which form a 45° angle with the horizontal plane, as suggested by Nillson, in order to direct the flow of air obliquely down towards a patient. Refer to Nillson, Figures 2 and 4; column 4, lines 20-31.

29. In regard to claim 6, which depends on claim 5, Nillson further teaches an air supply unit (central supply member 10) wherein the base plane (below reference character 13 in Fig. 2) is arranged horizontal and parallel to the ceiling of the room. See Nillson, Figure 2. Consequently, Truhan in view of Nillson also teaches the language of claim 6.

30. In regard to claim 7, which depends on claim 6, Nillson further teaches a central supply member (10) with longitudinal slits (11), which may form angles with the horizontal in the range

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of about 10° to 80°. Refer to Nillson, column 4, lines 20-38. Thus, Truhan in view of Nillson also meets the language of claim 7.

31. In regard to claim 8, which depends on claim 7, Truhan further teaches, in one embodiment of his invention, “a pair of depending brackets (35) and (36) that support adjusting screws (37) and (38), respectively, which may be turned to adjust the pivotal location of plates (33) and (34) and the space between the plates”. See Truhan, Figure 3 and column 3, lines 48-52. Therefore, Truhan in view of Nillson also teaches the language of claim 8.

32. Claim 18 of this application, which depends on claim 16, is also obvious when Truhan is viewed in light of Nillson. As described above, Truhan discloses all of the limitation set forth in claim 16. However, claim 18 of this application further discloses that the slot diffuser is arranged in a meeting corner of the main diffusers. Truhan does not contain this additional limitation. Nillson, although, teaches a slot diffuser (10) which is arranged in a meeting corner of main diffusers (12 and 13). Refer to Nillson, Figures 1-3 and column 4, lines 20-22 and 42-45. As discussed above, Nillson is analogous prior art under 35 U.S.C. 103(a) and there is sufficient motivation to combine Nillson with Truhan. Consequently, Truhan in view of Nillson also teaches the language of claim 18.

33. In regard to claim 19, which depends on claim 18, Nillson further teaches two main diffusers (12) and (13), which form a mutual angle of about 90°. See Nillson, Figure 2 and column 3, lines 25-32. An angle of 90° is encompassed by the range of 80° to 110° specified in claim 19 of this application. Thus, Truhan in view of Nillson also meets the language of this claim.

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34. In regard to claim 21, which depends on claim 19, Truhan further discloses a portable air conditioning unit with each slot (air directing structures 30 and 31) having a depth substantially larger than the width of the slot. Refer to Truhan, Figure 3 and column 3, lines 42-52.

Consequently, Truhan in view of Nillson also meets the language set forth in claim 21.

35. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Truhan (US 3,511,162). This reference teaches all of the elements recited in **claim 10** of this application except for a slot depth that is ten to twenty times larger than the width, which merely constitutes an optimization of a design parameter.

36. In particular, claim 10, which depends on claim 9, is unpatentable in view of Truhan. Truhan discloses a system for ventilating a patient zone, comprising a booster fan (fan or blower 69) arranged to force air through a guiding slot diffuser (air directing structure 30) for guiding an airstream (110) in a certain direction, wherein said diffuser (air directing structure 30) has at least one slot with a depth substantially larger than the width (space between plates 33 and 34), and one area of perforated sheet (perforated plate 25), being arranged at an outlet side of said diffuser (air directing structure 30). See Truhan, Figures 2 and 3; column 3, lines 42-52; and column 4, lines 35-37. However, claim 10 of this application further discloses that the depth of the slot is ten to twenty times the width. It has been held that “[w]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation”. See MPEP § 2144.05(II)(A) (quoting *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)). However, it has further been held that “[a] particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said

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variable might be characterized as routine experimentation. Refer to MPEP § 2144.05(II)(B) (quoting *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977)). As described above, the Truman reference depicts a slot depth substantially larger than the width, but does not expressly specify that this depth is ten to twenty times the width. Refer to Truman, Figure 3. Although, this limitation is a result-effective variable because a slot with a depth, which is ten to twenty times the width, behaves as a nozzle and accelerates the flow of the fluid contained therein. See Wikipedia Online Encyclopedia (<http://en.wikipedia.org/wiki/Nozzle>) (accessed 11/27/2006) for the basic principles of fluid mechanics associated with a nozzle. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize this particular depth-to-width ratio for the slot in Truman because it simply constitutes the optimization of a design parameter which fails to patentably distinguish claim 10 in this application over Truman.

37. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Truman (US 3,511,162) in view of Lindestrom (US 3,726,203). These two references, when considered together, teach all of the elements recited in **claim 11** of this application.

38. In particular, claim 11 of this application, which depends on claim 10, is obvious when Truman is viewed in light of Lindestrom. As described above, because the additional limitation set forth in claim 10 constitutes the optimization of a design parameter, the Truman reference teaches all of the limitations of claim 10. However, claim 11 of this application further specifies a slot width of 2 mm. Truman does not contain this further limitation. Lindestrom, although, teaches an air supply device, for the maintenance of a dust-free, bacteria-free zone in a room, which includes a slot with a width of 2 mm capable of producing an air flow rate through the slot

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which is greater than the moderate air flow rate through the adjacent perforated plates (8) and (9). Refer to Lindestrom, Figure 1; column 1, lines 4-5, 39-51; and column 2, lines 28-30 and 39-42. Lindestrom is analogous prior art under 35 U.S.C. 103 because the system disclosed in this application and device in Lindestrom are from the same field of endeavor, namely devices for the ventilation of rooms in which the need for clean air is extremely high. See Lindestrom, column 1, lines 21-28. Moreover, there is sufficient motivation to combine Lindestrom with Truhan because Lindestrom teaches a device, for supplying clean air in a critical space, which incorporates a narrow slot width that will facilitate the acceleration of the flow of the fluid therein. Therefore, when Truhan is viewed in light of Lindestrom, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a slot width of 2 mm, as suggested by Lindestrom, in order to increase the velocity through the slot relative to adjacent perforated plate air diffusers. Refer to Lindestrom, column 1, lines 4-5, 39-51 and column 2, lines 28-30 and 39-42.

39. **Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Truhan (US 3,511,162) in view of Nillson (US 4,781,108) as applied to claim 21 above, and further in view of Lindestrom (US 3,726,203). These three references, when considered together, teach all of the elements recited in **claim 22** of this application.

40. In particular, claim 22 of this application, which depends on claim 21, is obvious when Truhan is viewed in light of Nillson, and further viewed in light of Lindestrom. Truhan as modified by Nillson, lacks the slot width of approximately 2 mm as described in the claimed invention. Although, Lindestrom teaches an air supply device, for the maintenance of a dust-free, bacteria-free zone in a room, which includes a slot with a width of 2 mm capable of

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producing an air flow rate through the slot which is greater than the moderate air flow rate through the adjacent perforated plates (8) and (9). Refer to Lindestrom, Figure 1; column 1, lines 4-5, 39-51; and column 2, lines 28-30 and 39-42. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the portable air conditioning unit, as modified by Nillson, with a 2 mm wide slot, as taught by Lindestrom, in order to result in a higher velocity through the slot relative to the adjacent perforated plate air diffusers. Refer to Lindestrom, column 1, lines 4-5, 39-51 and column 2, lines 28-30 and 39-42.

41. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Truhan (US 3,511,162) in view of Hirsch (DE 2851046 A1) as applied to claim 23 above, and further in view of Sodec (US 5,054,379). These three references, when considered together, teach all of the elements recited in **claim 24** of this application.

42. In particular, claim 24 of this application, which depends on claim 23, is obvious when Truhan is viewed in light of Hirsch, and further viewed in light of Sodec. With respect to the first part of this claim, Truhan further discloses: (a) providing the first flow of air (110) by forcing air through at least one elongated slot (air directing structure 30 formed from elongated plates 33 and 34) parallel to a vertical plane parallel to a side of the bed (12) and (b) providing the second flow of air (112) by forcing air through a perforated sheet (perforated plate 25). See Truhan, Figures 1 and 3; column 3, lines 41-48; and column 7, lines 18-23 and 33-41. Truhan as modified by Hirsch, lacks the limitation that the perforated sheet is made of metal or similar material having a hole content of approximately 30%. Although, Sodec teaches an air release box for supplying clean air to a room, which has wall sections made of sheet metal and apertures (12) that preferably occupy 20% to 30% of the total wall area. Refer to Sodec, Figure 3 and

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column 3, lines 48-53. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include in the method for supplying fresh air to a patient lying in a bed, as modified by Hirsch, a perforated metal sheet with apertures occupying 30% of the total area, as taught by Sodec, in order to deliver clean air and reduce dust whirl-up. See Sodec, Figure 3; column 1, lines 5-9 and 35-40; and column 3, lines 48-53.

43. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Truhan (US 3,511,162) in view of Hirsch (DE 2851046 A1) and Sodec (US 5,054,379), as applied to claim 24 above, and further in view of Gustavsson (US 4,131,059). These four references, when considered together, teach all of the elements recited in **claim 25** of this application.

44. In particular, claim 25 of this application, which depends on claim 24, is obvious when Truhan is viewed in light of Hirsch and Sodec, and further viewed in light of Gustavsson. As described above, Truhan in view of Hirsch, and further in view of Sodec, teaches all of the limitations of claim 24. Moreover, with respect to a portion of this claim, Truhan further discloses: (a) providing the first flow of air (110, 111) by forcing air through two elongated slots (air directing structures 30 and 31) and (b) providing the second flow of air (112) with an air speed of less than 5 % (preferably 80 feet per minute) of the air speed of the first flow (preferably 1700 feet per minute). See Truhan, Figures 1 and 3; column 3, lines 41-48; and column 7, lines 18-23 and 33-49. Furthermore, in regard to another portion of this claim, Hirsch further discloses with respect to the secondary air delivered by the jet (7), in the German language, “etwa zwischen 3 bis 10 % des primärluft-volumens”, which means, when translated to the English language using the AltaVista Babel Fish Translation tool online (accessed 11/28/2006), “for instance between 3 to 10 % of the primary air volume”. See Hirsch, page 9,

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second paragraph; also see AltaVista Babel Fish Translation (<http://babelfish.altavista.com/>) (accessed 11/28/2006). Thus, Hirsch satisfies the limitation in the claim that the slower, second flow of air has a volume which is more than double that of the faster, first flow of air. However, Truhan as modified by Hirsch and Sodec, lacks the limitation that the slots have converging axes of depth. Gustavsson, though, teaches an apparatus for forming and controlling air currents, which has two elongated slots (5) with converging axes of depth. Refer to Gustavsson, Figures 2-3; column 1, lines 6-8; and column 4, lines 47-52. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the portable air conditioning unit, as modified by Hirsch and Sodec, with two elongated slots having converging axes of depth, as taught by Gustavsson, in order to form and control air currents delivered by the portable air conditioning unit. See Gustavsson, Figures 2-3; column 1, lines 6-8; and column 4, lines 47-52.

Conclusion

45. See attached form PTO-892 for additional pertinent prior art, which was not directly relied upon in this action. In particular, Allander (US 3,380,369) discloses a system for ventilating clean rooms, while Nyström (US 4,606,259) discloses an air curtain, which has two air currents and employs co-ejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick F. O'Reilly III whose telephone number is (571) 272-3424. The examiner can normally be reached on Monday through Friday, 8:30 am to 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Josiah C. Cocks can be reached on (571) 272-4874. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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